

Work Order ID 68568

Monday, April 18, 2011 9:06:26 AM



Page 1

Item ID: D4149-041

Revision ID:

Item Name: Crosstube Lug Assembly, Aft

Start Date: 4/18/2011 Start Qty: 4.00

Required Date: 4/21/2011 Req'd Qty: 4.00

Reference:

Accept



Setup Start



Stop



Cust Item ID:

Customer:

Approvals: Process Plan:

Date: 4-04-15

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID Tool # Plan Code Accept Qty Reject Qty Reject Number Insp. Stamp

Draw Nbr

Revision Nbr

D4149

C

100

0.00



Small Fab

Memo

0.00

Small Fab

1- Assemble as per dwg

110

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

120

Identify as per dwg & Stock Location: 468

0.00



Packaging

Memo

0.00

Packaging

4/5/12 (3)

(F3)

11/5/13

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 68568

Monday, April 18, 2011 9:06:26 AM



Page 2

Item ID: D4149-041

Accept



Setup Start



Revision ID:

Item Name: Crosstube Lug Assembly, Aft

Stop



Start Date: 4/18/2011 Start Qty: 4.00



Cust Item ID:

Required Date: 4/21/2011 Req'd Qty: 4.00



Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

139

QC21 - Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

11/5/10 [Signature]

W 6.25.13

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Monday, April 18, 2011 9:06:35 AM

Work Order ID: 68568

Parent Item: D4149-041

Parent Item Name: Crosstube Lug Assembly, Alt



Start Date: 4/18/2011

Required Date: 4/21/2011

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP Rev:A 10.06.24 new issue DD ver:EC
IPP Rev:B 10.07.22 as per revB DD ver:JLM
11.03.03 as per revC DD ver:JLM

IPP Rev:C

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

MS21043-3



Nut

Purchased

No

100

Each

948 0000

4

8

Location

Loc Qty

Loc Code

FG

80

103691

80

FP-B

-5

112314

-5

ST301

873

112314

873

MS21043-4



Nut

Purchased

No

100

Each

1,181,000

1

12

Location

Loc Qty

Loc Code

FG

40

104603

40

ST300

600

117423

600

ST301

541

114523

3

116188

238

116549

300

4

SP 11/05/12

SP 11/05/12

12

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Monday, April 18, 2011 9:06:35 AM

Page 2

Work Order ID: 68568

Parent Item: D4149-041

Parent Item Name: Crosstube Lug Assembly, Aft

Start Date: 4/18/2011

Required Date: 4/21/2011

Start Qty: 4.00

Required Qty: 4.00

D3910-1 Manufactured No 100 Each 1 0000 1 4



Crosstube Lug

Location Loc Qty Loc Code

st507 1
65631 1



EP 11/05/12
68263 (4x)

D4091-1 Manufactured No 100 Each 6 0000 1 4



Mounting Lug

Location Loc Qty Loc Code

ST460 6
65626 6



EP 11/05/12
B68868 (4x)

D4149-1 Manufactured No 100 Each 5 0000 2 8



Crosstube Lug Plate, Aft

Location Loc Qty Loc Code

ST133 5
66896 5



EP 11/05/12
B68869 (3x)

D4149-3 Manufactured No 100 Each 1 0000 1 4



Spacer

Location Loc Qty Loc Code

ST133 1
61010 1



EP 11/05/12
B68867 (4x)

D4149-5 Manufactured No 100 Each 2 0000 1 4



Eyebolt Stud

Location Loc Qty Loc Code

ST133 2
65827 2



EP 11/05/12
B68267 (3x)

Monday, April 18, 2011 9:06:35 AM

Shop Packet Print

Page 2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Monday, April 18, 2011 9:06:36 AM

Page 3

Work Order ID: 68568

Parent Item: D4149-041

Parent Item Name: Crosstube Lug Assembly, All

Start Date: 4/18/2011

Required Date: 4/21/2011

Start Qty: 4.00

Required Qty: 4.00

AN3C12A
Bolts

Purchased No

100 Each 57.0000 2 8

Location Loc Qty Loc Code
ST351 57
116924 7
117313 50

AN4C13A
BOLT

Purchased No

100 Each 44.0000 3 12

Location Loc Qty Loc Code
ST353 44
117366 44

MS20615-4M18
Rivet

Purchased No

100 Each 370.0000 3 12

Location Loc Qty Loc Code
ST323 370
117411 370

NA51149C0332R
Washer

Purchased No

100 Each 4,723.000 4 16

Location Loc Qty Loc Code
ST297 4723
116304 55
117291 4668

EPH/05/12
EPH/05/12
EPH/05/12
EPH/05/12
EPH/05/12

M 117638
9
M 117619 (2)

12
16

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Monday, April 18, 2011 9:06:36 AM

Page 4

Work Order ID: 68568

Parent Item: D4149-041

Parent Item Name: Crosstube Lug Assembly, Aft



Start Date: 4/18/2011

Required Date: 4/21/2011

Start Qty: 4.00

Required Qty: 4.00

NAS1149C0432R

Purchased

No

100

Each

6,512.000

6

24



Washer



EP 11/05/12

24

Location

Loc Qty

Loc Code

ST297

6512

116900

1512

117291

5000

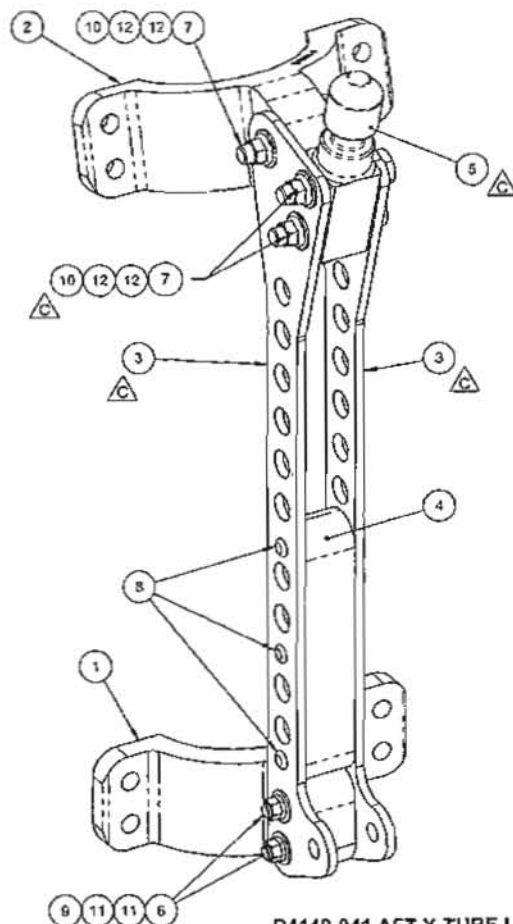
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D4149-041 AFT X-TUBE LUG ASSY

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART OSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4149-041" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT: 2.21 lbs

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 68548

2/11-04-18

ITEM	QTY	P/N	DESCRIPTION
	X	D4149-041	AFT X-TUBE LUG ASSY
1	1	D3910-1	X-TUBE LUG
2	1	D4091-1	MOUNTING LUG
3	2	D4149-1	AFT X-TUBE LUG PLATE
4	1	D4149-3	SPACER
5	1	D4149-5	EYEBOLT STUD
6	2	AN3C12A	BOLT
7	3	AN4C13A	BOLT
8	3	MS20615-4M18	RIVET
9	2	MS21043C3	NUT
10	3	MS21043C4	NUT
11	4	NAS1149C0332R	WASHER
12	6	NAS1149C0432R	WASHER

C	HOLE DIA CHANGED TO 0.250" (D5-3); HOLE DIA CHANGED TO 0.250" (C9-5); REPLACED QTY(2) AN3C12A, MS21043C3 AND QTY(4) NAS1149C0332R WITH QTY(2) AN3C13A, MS21043C4 AND QTY(4) NAS1149C0432R (C3-1, D7-2)	SC	11.02.22
B	MS20615-4M18 WAS MS20615-4M18 (ZN D3-1 & B7-2); ADDED D4149-5 (SHT 5); D4149-3 WAS D3910-5 (ZN D3-1 & D7-2); REPLACED QTY(3) MS20615-4M18 WITH QTY(2) EACH AN3C12A, MS21043C3 AND QTY(4) NAS1149C0332R WASHER (ZN D3-1, C7-1, B7-2 & B3-2); 06.191 2 PL REPLACES 06.129 3 PL (ZN D5-3); REASON: SEE TR-0350-607-2 REV. B	MB	10.07.05
A	NEW ISSUE	MB	10.06.15
REV	DESCRIPTION	BY	DATE
DESIGN	MB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO. D4149 REV. C SHEET 1 OF 3 AFT X-TUBE LUG ASSY SCALE NTS COPYRIGHT © 2010 BY DART AEROSPACE LTD ALL RIGHTS RESERVED. NO PART OF THIS PUBLICATION MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT PERMISSION IN WRITING FROM DART AEROSPACE LTD.	
DRAWN	SC		
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	11.02.22		

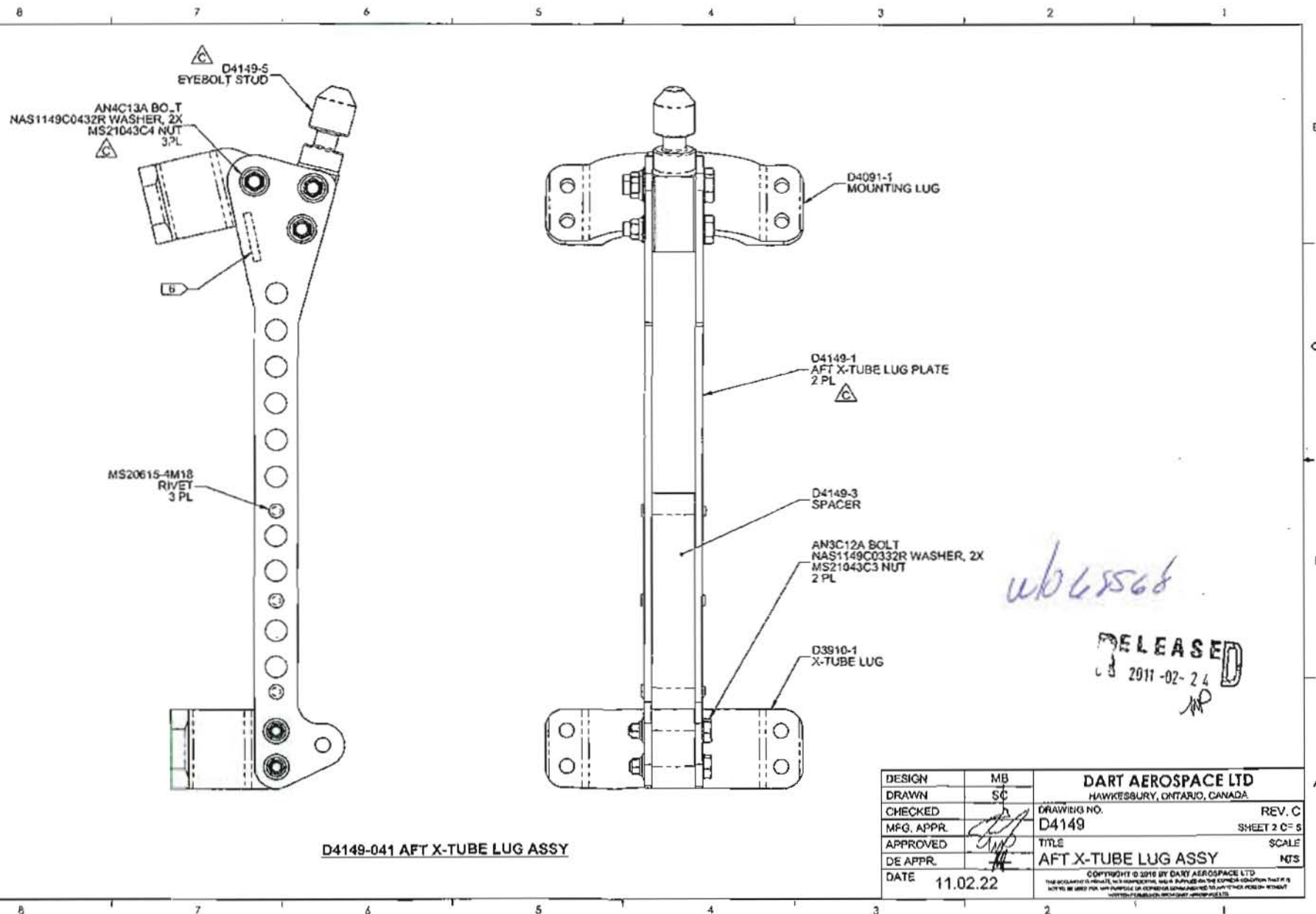
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



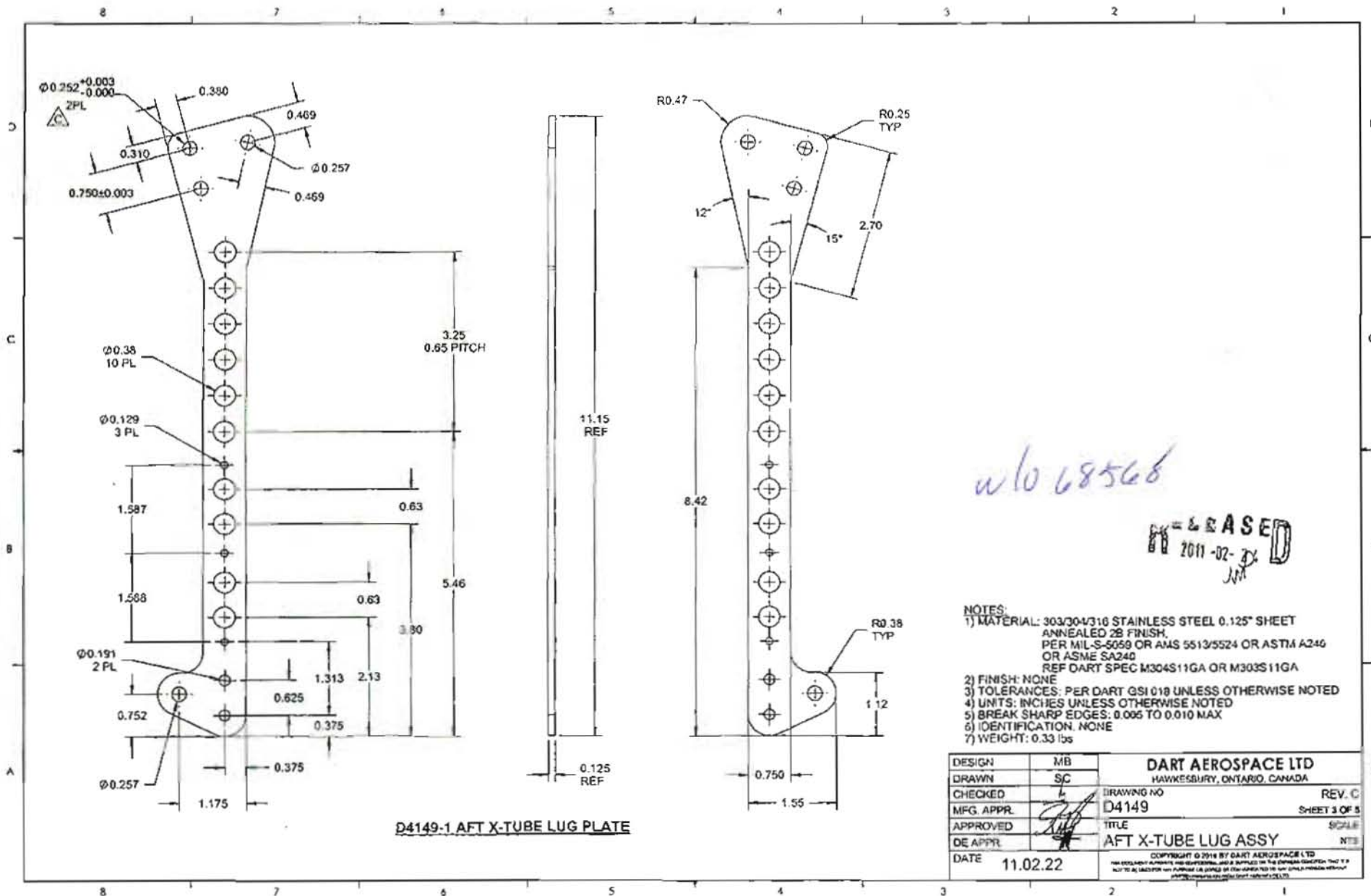
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



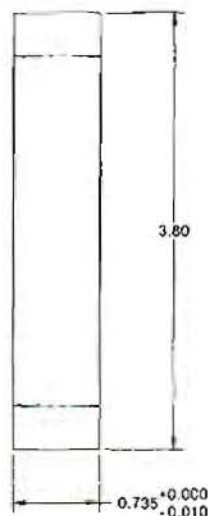
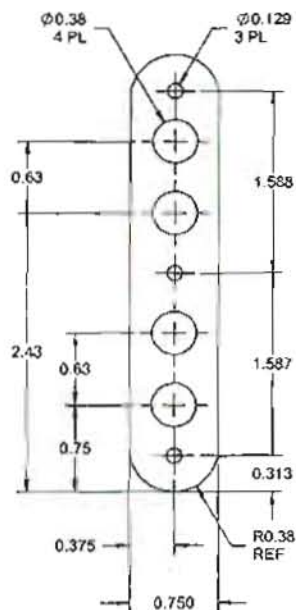
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D4149-3 SPACER

w/o 68568

RELEASED
2011-02-22

- NOTES:**
- 1) MATERIAL: 303/304/316 STAINLESS STEEL BAR PER ASTM A276 OR A582
REF DART SPEC MS304B OR MS303B
 - 2) FINISH: NONE
 - 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK ALL SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: NONE
 - 7) WEIGHT: 0.47 lbs

DESIGN	MB	DART AEROSPACE LTD	
DRAWN	SC	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D4149	SHEET 4 OF 5
APPROVED		TITLE	SCALE
DE APPR.		AFT X-TUBE LUG ASSY	MPS
DATE	11.02.22	COPYRIGHT © 2015 BY DART AEROSPACE LTD	

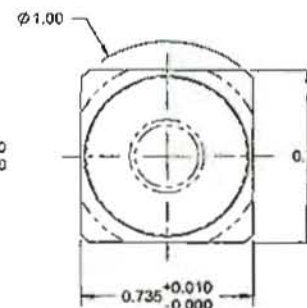
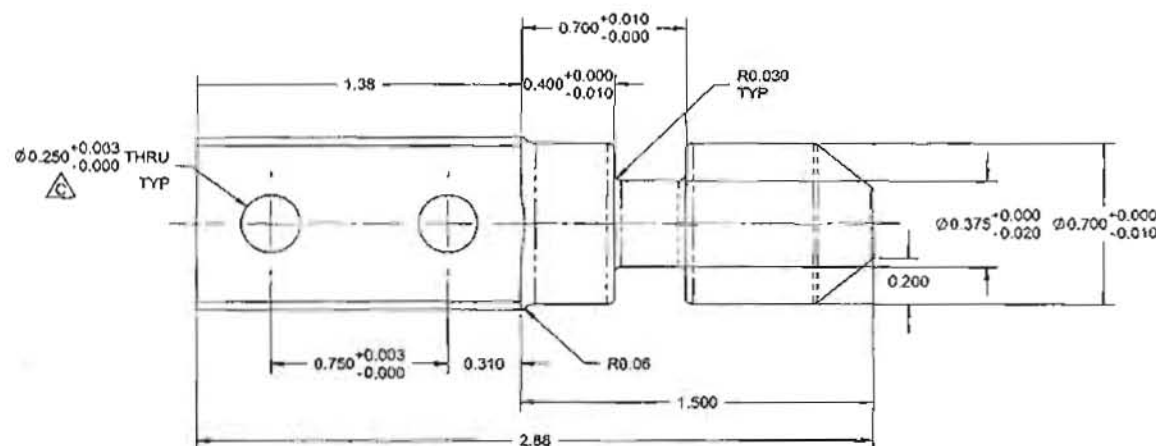
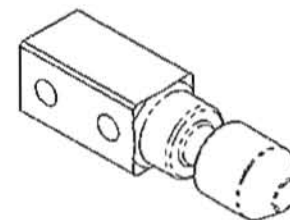
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D4149-5 EYEBOLT STUD

u/06856d

RELEASED
2011-02-22

NOTES:

- 1) MATERIAL: 303/304/316 STAINLESS STEEL BAR PER ASTM A276 OR A582
REF DART SPEC MS304B OR MS303B
- 2) FINISH: NONE
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK ALL SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4149-5" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT: 0.32 lbs

DESIGN	MB	DART AEROSPACE LTD	
DRAWN	SC	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D4149	SHEET 5 OF 5
APPROVED		TITLE	SCALE
DE APPR.		AFT X-TUBE LUG ASSY	NTS
DATE	11.02.22	<small> COPYRIGHT © 1996 BY DART AEROSPACE LTD THIS DRAWING IS THE PROPERTY OF DART AEROSPACE LTD. IT IS TO BE USED FOR THE PURPOSES SPECIFIED ONLY. ANY REPRODUCTION OR TRANSMISSION OF THIS DRAWING WITHOUT THE WRITTEN PERMISSION OF DART AEROSPACE LTD IS PROHIBITED. </small>	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries